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moist climate with frequent showers, is remarkable as coming from a place of scanty rain-fall and long summer droughts. The author adopts for his classification that first used by Schrœter and repeated by Berlese and De Toni in Saccardo's Sylloge Fungorum, giving for convenience translations of the descriptions of family, genera, and sub-genera.

Two new species, *Peronospora hedeomæ*, K. & S., *P. cynoglossi*, Burrill, and a new variety of the latter, *P. cynoglossi*, var. *echinospermi*, Swingle, are quite fully described; measurements of 100 conidia and 25 conidiophores being given to establish the authenticity of the variety. Although it is to be regretted that there are no remarks upon the relation of this family to the atmospheric humidity it is interesting to note that the author finds only the following species as passing the winter in seeding plants: *P. arenariæ*, var. *macrospora, P. Arthuri, P. corydalis, P. parasitica, P. hedeomæ*, and *P. candida.*

The reference to an examination of every specimen for oospores as well as the carefully prepared synonomy show the work to be of the highest order. One or two changes in the authorities of some of the common species may attract attention but will be found to be well supported by the law of priority, such as *Cystopus amaranti*, (Schw.) Berk and *Peronospora parasitica*, (Pers.) Fries.

The addition of the localities from whence specimens have been obtained together with other convenient helps make the paper a very valuable one to State collectors.—D. G. F.

INDEX TO NORTH AMERICAN MYCOLOGICAL LITERATURE.

By David G. Fairchild.*

1. Dudley, W. R. Notes on investigations now in progress (with figures). Second Annual Report of Cornell Ag. Ex. Sta., 1889. Issued February 15, 1890. I. The onion mold (*Peronospora Schleideniana*, DBy.). II. Anthracnose of currants (*Glœosporium ribis*, (Lib.) Mont. and Desm.). III. Leaf-blight of quince and pear (*Entomosporium maculatum*, Lév.)

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*In addition to the reviews of recent foreign articles as published in the past we propose in the future to give an index to the North American Mycological Literature, endeavoring so far as possible to bring the information down to the time each issue of the Journal goes to print. In order to facilitate the work we shall be greatly obliged if the botanists will give us notice of any articles of a mycological nature contributed by them to other than the current scientific publications; and also in giving such information to state the exact date of publication. As Experiment Station bulletins and annual reports are seldom dated exactly, it will be a great convenience if botanists will kindly state in sending their reports to us the time at which they were ready for distribution. The work will be in charge of Mr. David G. Fairchild to whom all publications and communications bearing upon the subject should be addressed.—B. T. G.

2. Farlow, W. G. Poisonous action of *Clathrus columnatus*, Bosc. Botanical Gazette; Vol. XV, No. 2, p. 45. February, 1890. Issued March 5.

3. Galloway, B. T. Fungous Diseases of Fruits and their Treatment. Colman's Rural World, March 13, 1890, an address to the Peninsula Horticultural Society, second annual meeting, Chestertown, Md.

4. Halsted, B. D. Some Fungous Diseases of the Cranberry. Bulletin 64 of New Jersey Agricultural College Experiment Station, December 31, 1889. I. The Cranberry Gall Fungus (with figures). Discovery and history. Structure. Inspection of the bog. Related species of plants infested. Comparison of galls on differents hosts. Study of infested bog. Recommendations for combating the gall. A new and as yet undescribed species of the genus *Synchytrium* (*S. vaccinii*, Thomas) is found to be the cause of this peculiarly local and destructive disease and its structure and life history, so far as possible in one year's study, are carefully worked out. II. The Cranberry Scald (with figures). Distribution of the fungus. Description of microscopical characters. The results of the first year's investigation of this obscure and in New Jersey, at least, extremely destructive disease, in which the mycelial threads of a sphæriaceous fungus are traced from the soil of the bog up through the stem and branches to the leaves and fruit where they mature their reproductive bodies. Preliminary suggestions are given as to the possible lines of treatment.

5. Hollyhock Diseases (*Puccinia malvacearum*, Mont., and *Cercospora althæina*, Sacc). Garden and Forest. March 26, 1890, p. 158.

6. Kean, Alexander Livingston. The Lily Disease in Bermuda (with plate), Botanical Gazette; Vol. XV, No. 1, p. 8, January, 1890. Issued January 28, 1890. A carefully prepared description of the parasitism of a species of *Botrytis* identical with that described by H. Marshall Ward in Ann. Bot., November, 1888, as it appears in Bermuda upon *Lilium Harrisii*. The author suggests as a possible remedy for this threatening disease the planting of some other crop in alternate rows, which, with high and spreading foliage, will prevent the collection of dew upon the leaves, and thus check the fungus so dependent on moisture for its propagation.

7. Scribner, F. L. Root-rot of the Vine (*Agaricus melleus*, Secr. and *Dematophora necatrix*, R. Hartig). Orchard and Garden, January, 1890, p. 12.

8. Black-spot of the Rose (*Actinonema rosæ*, (Lib.) Fr.). Orchard and Garden, March, 1890, p. 57.

9. Seymour, A. B., and Earle, F. S. Economic Fungi. Fascicle I. Cambridge, Mass. January 1, 1890. The first of a series of fascicles of fungi parasitic upon cultivated or noxious plants. In book form, $3.50; unbound, $3.

10. THAXTER, ROLAND. I. Smut of onions (*Urocystis cepulæ*, Frost), (with plates). Annual Report of the Connecticut Agricultural Experiment Station for 1889. Report of the Mycologist. Issued March 11. History; origin; general characters; distribution and severity; conditions influencing prevalence and increase; dissemination; retention of germinative power by spores; occurrence or non-occurrence in sets and seed onions; botanical history and relations; manner of infection; experiments for prevention; general precautions. A most admirable treatment of the disease in which the botanical history and origin as well as the practical points of inquiry are well worked out. As the fungus seems to enter the plant only beneath the ground all treatments of seedlings must be before they appear above the surface of the soil. Only powdered fungicides were applied, scattered along the drills and slightly mixed with the soil before the planting of the seed. Although the author is not warranted he believes from his tentative experiments in recommending the use of flowers of sulphur as a preventive of the disease, it appears to him at least a promising substance for that purpose; of much more value than powdered copper sulphate which prevents germination of the seed, or iron sulphate, and less expensive in cost and application than sodium sulphide. The cost with rows one foot apart when the fungicide composed of one part of flowers of sulphur mixed with an equal part of air-slaked lime is scattered evenly in the bottom of the drills and the seed planted almost directly upon it, will not exceed, exclusive of labor of application, 60 cents per acre. II. The onion mildew (*Peronospora Schleideni*, Ung.), *ibid.* III. The onion Macrosporium (*Macrosporium sarcinula*, Berk. var. *parasiticum*, Thüm.), (with figures), *ibid.* IV. The larger onion Macrosporium (*Macrosporium Porri*, Ell.), (with figures), *ibid.* V. The onion Vermicularia (*Vermicularia circinans*, Berk.), (with figures), *ibid.* VI. List of fungi parasitic upon members of the genus *Allium*, *ibid.* VII. Mildew of lima beans (*Phytophthora phaseoli*, Thaxter), (with figures), *ibid.*

11. ——— On some North American species of *Laboulbeniaceæ*. Proceedings of the American Academy of Arts and Sciences, pp. 5–14. March 15, 1890. A preliminary communication on American members of this order, to be supplemented by a more extended account; to form the second part of a proposed monograph of *Entomogenous* plants.

12. WEBBER, H. J. Uredinial Parasites. Am. Nat., Vol. XXIV, No. 277. January, 1890, pp. 75, 76.

13. ——— Peridial Cell Characters in the classification of the Uredineæ. Am. Nat., Vol. XXIV, No. 278. February, 1890, p. 177.

14. ——— Peculiar Uredineæ (with plate). Am. Nat., Vol. XXIV, No. 278. February, 1890, p. 178.

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